



Superfund Research Program

Global Environmental Health Research

SRP Activities in Bangladesh

Columbia University SRP Center (P42ES010349) PI: Joseph Graziano

Health Effects and Geochemistry of Arsenic and Manganese

LOCATION: Araihaazar, Bangladesh

- **Ahsan, Habibul; habib@uchicago.edu** | Health Effects of As as Cohort Study: prospective cohort study in Araihaazar, Bangladesh, using individual level data on As exposure and metabolism.
 - **Graziano, Joseph; jg24@columbia.edu** | Consequences of As & Mn Exposure on Childhood Intelligence: epidemiological investigation of two populations, one from US and one from Araihaazar, Bangladesh, looking at magnitude of association between arsenic and manganese exposure through drinking water and childhood intelligence.
 - **Van Geen, Alex; avangeen@ldeo.columbia.edu** | Mitigation of As Mobilization in Groundwater: aims to augment our fundamental understanding of arsenic (As) behavior in ways that lead directly to a reduction in human exposure in both the U.S. and in Bangladesh by targeting safe aquifers for the installation of community wells.
 - **Zheng, Yan** | Mobilization of Natural As & Mn in Groundwater: investigate the interactions between hydrology, mineralogy, geology and geochemistry that result in naturally-elevated As concentrations (> 10 ug/L) for reducing groundwater contamination in Araihaazar, Bangladesh.
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Harvard School of Public Health SRP Center (P42ES016454) PI: Robert Wright

Superfund Metal Mixtures, Biomarkers and Neurodevelopment

LOCATION: Dhaka, Bangladesh

- **Wright, Robert; rowright@hsph.harvard.edu** | Epidemiology of Developmental Windows, Metal Mixtures: cohort study of metals and neurodevelopment in a Bangladeshi population.
 - **Christiani, David; dchris@hsph.harvard.edu** | Genetic Epidemiology of Neurodevelopmental Metal Toxicity: investigates neurodevelopment, genetic susceptibility, and metals in a cohort study in Dhaka, Bangladesh.
 - **Harvey, Charles; charvey@mit.edu** | Arsenic and Manganese Mobility: Land Use, Redox Shifts: characterizes changing subsurface conditions and investigates effects of deep wells on As/Mn biomarker levels in Dhaka, Bangladesh.
 - **Schwartz, Joel; jschwartz@hsph.harvard.edu, Stackelberg, Katherin E. Von; kvon@hsph.harvard.edu** | Research Translation Core: demonstrate and communicate the public health implications of Center research to facilitate risk assessment in Dhaka, Bangladesh.
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University of California-Berkeley SRP Center (P42ES004705) PI: Martyn Smith

Toxic Substances in the Environment

LOCATION: Bangladesh

- **Smith, Martin T.; martynts@berkeley.edu** | Arsenic Biomarker Epidemiology: Investigation of a cohort of children in Bangladesh who were highly exposed to arsenic in utero and in early childhood.

SRP Activities in Latin America

Harvard School of Public Health SRP Center (P42ES016454) PI: Robert Wright

Superfund Metal Mixtures, Biomarkers and Neurodevelopment

LOCATION: Mexico

- **Wright, Robert; rowright@hsph.harvard.edu** | Epidemiology of Developmental Windows, Metal Mixtures: cohort study of metals and neurodevelopment in a population in Mexico.
- **Christiani, David; dchris@hsph.harvard.edu** | Genetic Epidemiology of Neurodevelopmental Metal Toxicity: investigates neurodevelopment, genetic susceptibility, and metals in cohort study in Mexico.

The Superfund Research Program (SRP) supports science-based decision-making by funding cutting edge, university-based research and product-driven small business innovative research. SRP grantees investigate the toxicity, risk assessment, measurement, and remediation of hazardous substances found at Superfund Sites across the nation.

Northeastern University SRP Center (P42ES017198) PI: Akram Alshawabkeh

Puerto Rico Testsites for Exploring Contamination Threats (PRoTECT)

LOCATION: Puerto Rico

- **Giese, Roger; r.giese@neu.edu** | Discovery of Xenobiotics Associated with Preterm Birth: develop a sampling tool to be used for in-house exposure measurements in Puerto Rico.
- **Meeker, John; meekerj@umich.edu** | Phthalate Exposure and Molecular Epidemiologic Markers of Preterm: employ molecular epidemiological methods to explore environmental, genetic, demographic, and behavioral factors that contribute to preterm birth risk in Puerto Rico.
- **Padilla, Ingrid; ingrid.padilla@upr.edu** | Dynamic Transport and Exposure Pathways of Phthalates and TCE In Karst Groundwater Systems: determine the principal fate and transport processes for the release, mobility, persistence, and pathways of contaminants toward exposures and remediation zones in karst groundwater systems seen in Puerto Rico.
- **Alshawabkeh, Akram; aalsha@neu.edu** | Green Remediation by Solar Energy Conversion Into Electrolysis: develop green in situ remediation based on groundwater redox through the combined use of solar energy and cast or scrap iron electrolysis for application in karst systems as found in Puerto Rico.

University of Arizona SRP Center (P42ES004940) PI: A. Jay Gandolfi

Hazardous Waste Risk and Remediation in the Southwest

LOCATION: Mexico

- **Gandolfi, Jay A.; gandolfi@pharmacy.arizona.edu** | Administrative Core: supports the development of research training programs such as the US-Mexico Binational Center for Environmental Sciences and Toxicology.
- **Field, James A.; jimfield@email.arizona.edu, Gandolfi Jay A.; gandolfi@pharmacy.arizona.edu** | Outreach Core: empowers under-represented community members of the US-Mexico Border Region to become active participants in recognizing and resolving hazardous environmental contamination risks to human health.

University of California-Berkeley SRP Center (P42ES004705) PI: Martyn Smith

Toxic Substances in the Environment

LOCATION: Chile

- **Smith, Allan; ahsmith@berkeley.edu, Skibola Christine F. chrifs@berkeley.edu** | Arsenic Biomarker Epidemiology: investigation of arsenic exposure and mortality in northern Chile for the years 1950 to 2000, now assessing mortality due to pulmonary tuberculosis, chronic renal failure, and our newly discovered evidence of increased mortality from cancers of the larynx, penis, cervix and thyroid gland.

University of California-San Diego SRP Center (P42ES010337) PI: Robert Tukey

Molecular Mechanisms and Models of Exposure

LOCATION: US/Mexico Border

- **Evans, Ronald; evans@salk.edu** | Toxicogenomic Analysis of Nuclear Xenobiotic Receptors, PXR & CAR, in Chemical Metabolism and Human Health: collect soil and water samples from US/Mexico border and evaluate possibility of using a suite of biological-based assays to detect environmental pollution.
- **Pezzoli, Keith kpezzoli@ucsd.edu** | Community Engagement and Outreach: works with a diverse network of community, Tribal, and academic partners along the U.S.-Mexico Border region to produce effective science communication tools to educate the lay public about the relationship between human health and the environment.

SRP Activities in China and Japan

Oregon State University SRP Center (P42ES016465) PI: David Williams

PAHs: New Technologies and Emerging Health Risks

LOCATION: Beijing, China and Okinawa, Japan

- **Simonich, Staci; staci.simonich@oregonstate.edu** | PAHs in Highly Exposed Populations: Composition, Exposure and Mutagenicity: investigate the aging of Asian particulate matter (PM) in situ in the atmosphere and in the laboratory, using a series of monitoring sites from Beijing, China to Okinawa, Japan, and comparing the results to simulated atmospheric aging in a laboratory reactor.

For more information about the SRP, please email: srpinfo@niehs.nih.gov.

